



**Monthly Drought Update**  
**February 9, 2016**  
**San Luis Obispo County**

Note: Information provided in this update varies by date.

**CURRENT CONDITIONS**

**U.S. Drought Monitor Status:**

The latest U.S. Drought Monitor report released January 28, 2016, indicates San Luis Obispo County remains at the **D4 – Exceptional Drought intensity rating**. Approximately 86% of the state remains at a level D2 – Severe Drought or worse with 40% of the state in a D4 – Exceptional Drought intensity rating.

**San Luis Obispo County Precipitation Totals (in inches):**

Sub-Region	Area / Rain Station	Average Annual Rainfall	2015-16 Water Year (July 2015-June 2016)	
			Cumulative Total	% of Total Average
North Coast	Cambria (ALERT #717)	22.0	10.43	47%
	Whale Rock Reservoir (County Site #166.1)	16.0	15.07	94%
Inland	Paso Robles (County Site #10.0)	14.1	9.06	64%
	NE Atascadero (ALERT #711)	17.0	6.54	38%
	Atascadero MWC (County Site #34.0)	17.5	9.04	52%
	Santa Margarita (ALERT #723)	24.0	9.42	39%
	Salinas Dam (County Site #94)	20.9	19.19	44%
South Coast	SLO Reservoir (ALERT #749)	24.0	10.94	46%
	Lopez Recreation Area (ALERT #707)	23.0	10.13	44%
	West of Nipomo (CIMIS #202)	14.8	5.20	35%
	Nipomo East (ALERT #728)	18.0	6.97	39%

Note: This table contains provisional data from automated gauges and has not been verified. All units reported in inches. Report generated at 11:00am on 1/25/2016.

UC Cooperative Extension Farm Advisors have established new rainfall and soil moisture monitoring locations across San Luis Obispo County. These sites supplement information currently available through county and local agencies. These locations are designed to supply ongoing information on both rainfall amounts and soil moisture status. Results will be reported in future drought updates.

The figures on the next pages present rainfall data from the current water year as compared to long term historical data from the same site, Downtown Paso Robles and Cal Poly San Luis Obispo. Paso Robles historical data represents rainfall from July 1, 1887 through current (January 23, 2016). Cal Poly San Luis Obispo historical data represents rainfall from July 1, 1880 through current (January 23, 2016).

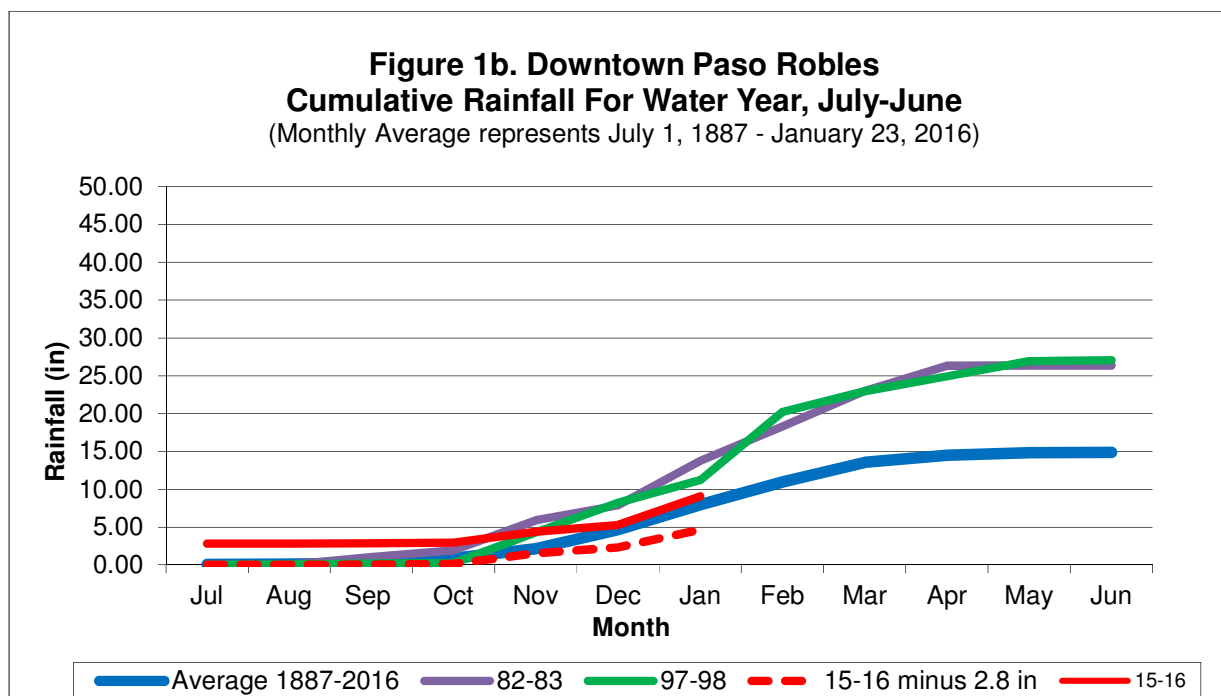
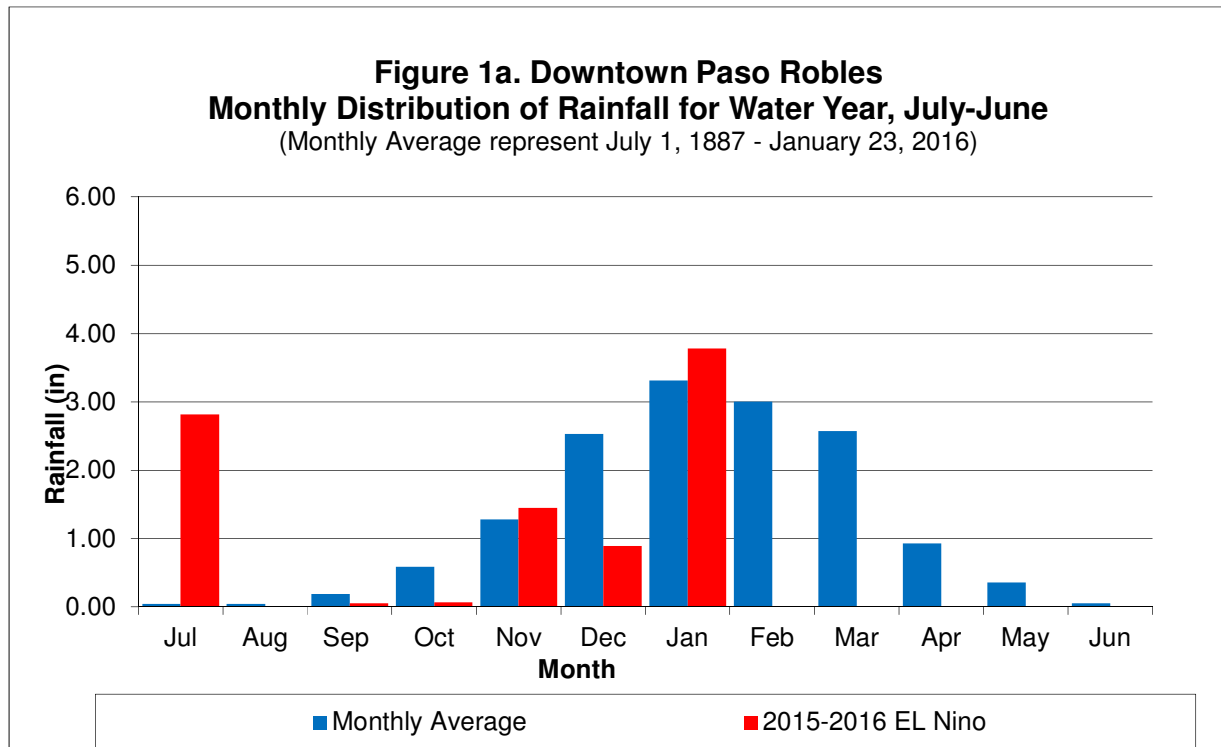


Figure 1a. shows monthly distribution of average rainfall as compared to rainfall totals for the 2015- 2016 water year. Note that if the 2.82 inches that came in July were removed, then cumulative rainfall for 2015- 2016 is below average. Cumulative rainfall totals for 82-83 and 97-98 represent cumulative rainfall totals during recent El Nino years.

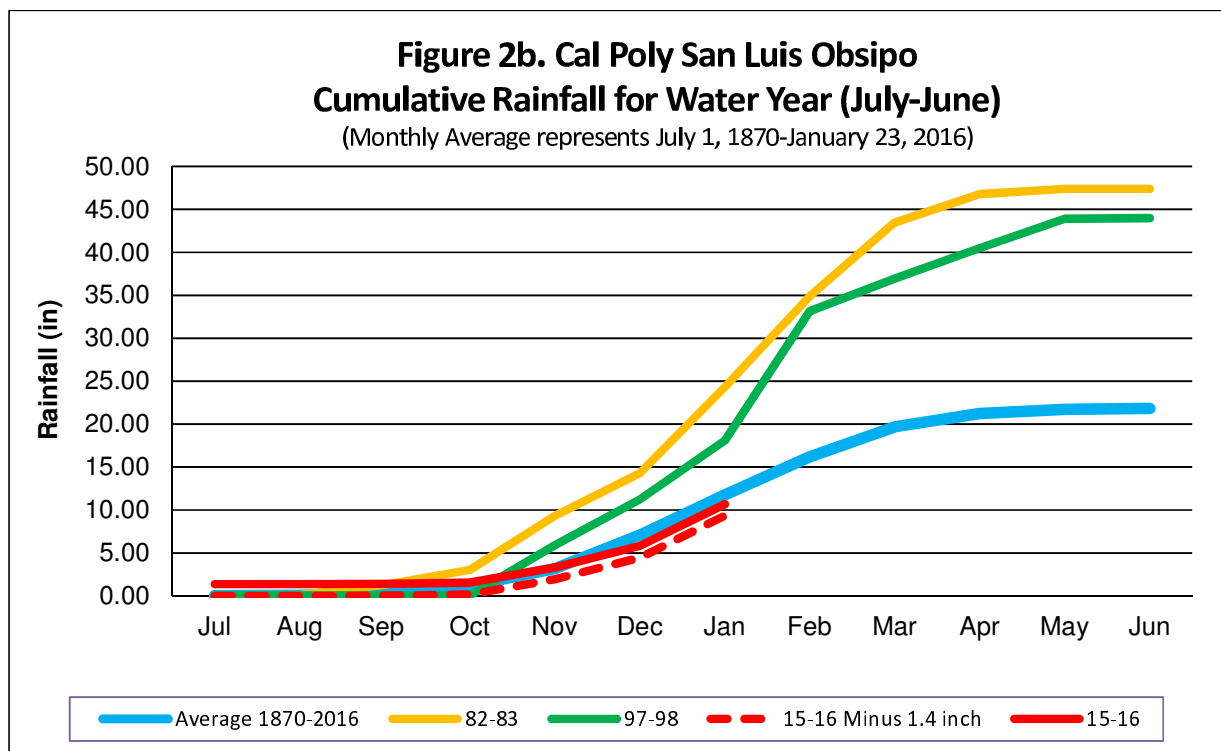
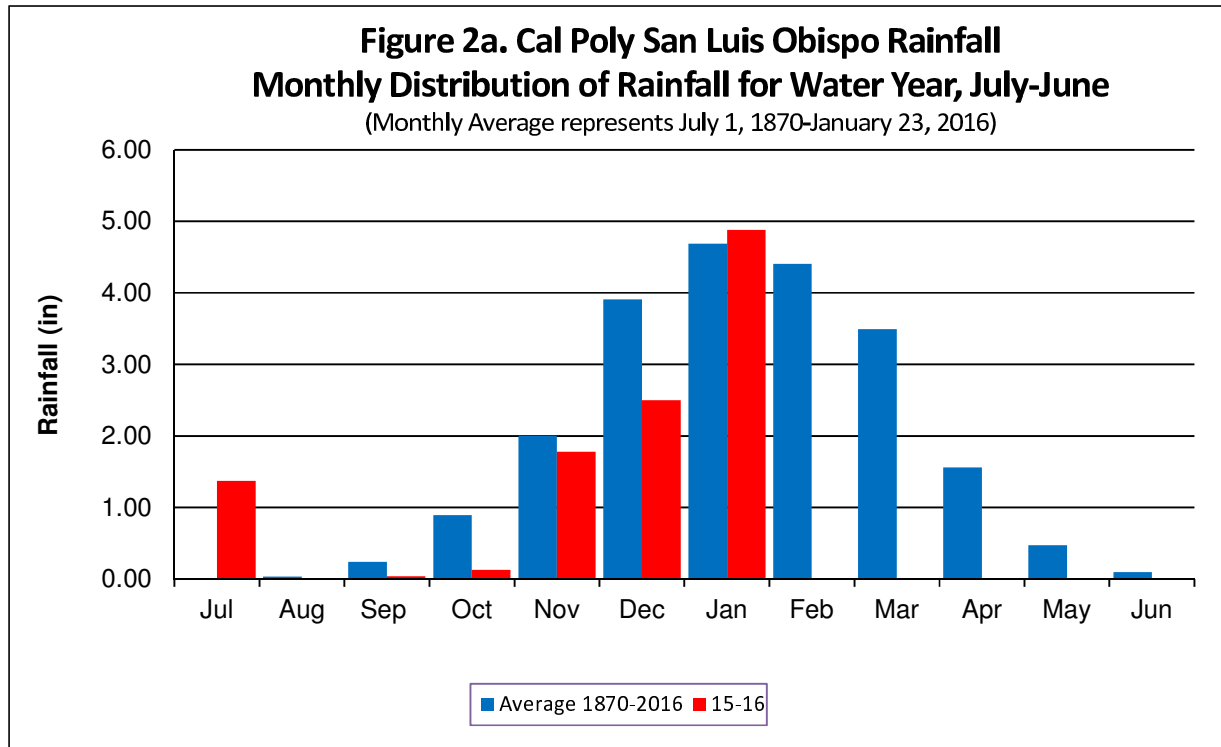


Figure 2a. shows monthly distribution of average rainfall as compared to rainfall totals for the 2015- 2016 water year. Note that if the 1.4 inches that came in July were removed, then cumulative rainfall is below average. Cumulative rainfall totals for 82-83 and 97-98 represent cumulative rainfall totals during recent El Nino years.

**Near-term Outlook:**

A strong El Niño continued during December. The frequent interval of storms reaching the state produced the first early winter season above normal snowpack totals in years across much of the Sierras. A strong El Niño is expected to gradually weaken through spring 2016, and to transition to ENSO-neutral during late spring or early summer. El Niño has already produced significant global impacts and is expected to affect temperature and precipitation patterns across the United States during the upcoming months.

Although the southern jetstream and associated storm track that are characteristic of El Niño winters are expected to bring some improvement of drought conditions to California, given the severity and longevity of the drought, it is unlikely to completely alleviate precipitation deficits and replenish reservoirs in just one season. The U.S. Seasonal Drought Outlook is calling for the drought to remain but improve throughout California if El Niño delivers rain as predicted.

**Reservoir Levels (% of capacity):**

Reservoir	% of Capacity	Current Acre Feet Storage
Nacimiento	21%	78,785
Whale Rock	35%	13,809
Lopez	29%	14,204
Salinas	13%	3,094

Source: [www.slocountywater.org](http://www.slocountywater.org) County of San Luis Obispo

**STATE WATER**

**Status:** On January 26, the Department of Water Resources (DWR) announced a small increase to its initial supply allocation for the State Water Project (SWP) – from 10% to 15%. According to DWR, the SWP allocation may be further increased as winter storms warrant and reservoir conditions improve but approximately 150% of average rain and snow would be needed for statewide conditions – with the exception of depleted groundwater – to significantly improve. As of January 31, 2016, San Luis Reservoir was at 34% capacity and 43% of average.

**VULNERABLE WATER SYSTEMS****County Service Areas (CSA's)****Santa Margarita (CSA 23)**

- Drought response level changed to CRITICAL status.
- Primary pumping is from shallow well No. 4; water is also being pumped from deep well No. 3 to reduce needs from well No. 4. State officials have also authorized the use of shallow wells 1 & 2 should the need arise.
- An emergency ordinance was adopted limiting outdoor watering. An informational mailer was sent to customers and signs in the community have been installed.
- The intertie with Atascadero Mutual Water Company (AMWC) is complete and ready for operation.

**Shandon (CSA 16)**

- Two wells currently provide all water to the Shandon community and continued to be monitored.
- Connection to the State Water Project has been awarded and construction will begin shortly.
- An emergency ordinance was adopted limiting outdoor watering. An informational mailer was sent to customers and signs in the community have been installed.

**Cayucos (CSA 10A)**

- Supply is available from Whale Rock and one on-site well. Staff has given a presentation to the Advisory Committee and business groups regarding conserving this supply.
- An emergency ordinance was adopted limiting outdoor watering. An informational mailer was sent to customers and signs in the community have been installed.

**Avila Valley (CSA 12)**

- Adequate supply is available from Lopez and State water “carryover” water sources for this year and next.

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- The Low Reservoir Response Plan for Zone 3 (the Lopez system) is in effect; municipal deliveries have been cut 10%, however, CSA12 continues to use than its full allocation and “bank” water for subsequent years.
- Evaluation of emergency drought mitigation options for all of Zone 3 (including CSA12) is underway, including use of PG&E Diablo Desalination.

### **Chorro Valley Institutions (CMC, Animal Services, Sheriff, County Operations, Camp San Luis, Cuesta College, County Office of Education)**

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- 2015 State water carryover water is available and being provided.
- The existing distribution system is being evaluated to assure water losses are minimized.
- CMC has completed their water treatment plant upgrade project.
- Discussions with City of San Luis Obispo to exchange Nacimiento for Whale Rock are being initiated if State Water is insufficient in 2016.

### **San Luis Obispo County Flood Control and Water Conservation District Systems**

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#### **Zone 3 – Lopez Water Project (CSA12, Pismo Beach, Grover Beach, Arroyo Grande, Oceano)**

- The Low Reservoir Response Plan for Zone 3 is in effect; municipal deliveries have been cut 10%.
- Downstream environmental and agricultural releases have been cut 9.5%.

#### **Salinas Water Project – Salinas Reservoir (Santa Margarita Lake)**

- The reservoir is at 12.6% capacity; City of San Luis Obispo is reliant on the Nacimiento and Whale Rock Reservoirs.

#### **Nacimiento Water Project**

- The Project operating at full annual allocation levels.

### **Non-County Operated**

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#### **Cambria Community Services District**

- Emergency San Simeon Creek Brackish Water Supply Project went online on January 20, 2015. The district is now seeking a permit to operate it permanently.

#### **San Simeon Community Services District**

- The CSD has a new well head salinity project to increase supplies in the current prop 84 grant round. DWR released draft funding recommendations and the San Luis Obispo IRWM region is recommended for 75% of grant request.

#### **Heritage Ranch Community Services District**

- The Nacimiento River is the only available water source for the community of Heritage Ranch.
- The tie-in connection from the Nacimiento line is complete. Construction of the inter-tie pipeline from Heritage Ranch is underway.

#### **Rural Paso Robles residents**

- Continuing to identify water-trucking options and examine outreach efforts. See County Drought Conditions and Water Conservation Website for drought relief update information.

## **IMPACTS**

### **Agricultural Impacts:**

Conditions within the agriculture industry fundamentally remain unchanged. Many producers are concerned with potential impacts from either a continuation of the drought or conversely, above average rainfall. Efforts to capture and store precipitation as well as to protect soils from potential erosion are being encouraged by University of California Farm Advisors as well as local Resource Conservation Districts. Figure 3 below illustrates the impacts of cumulative rainfall on changes in soil moisture.

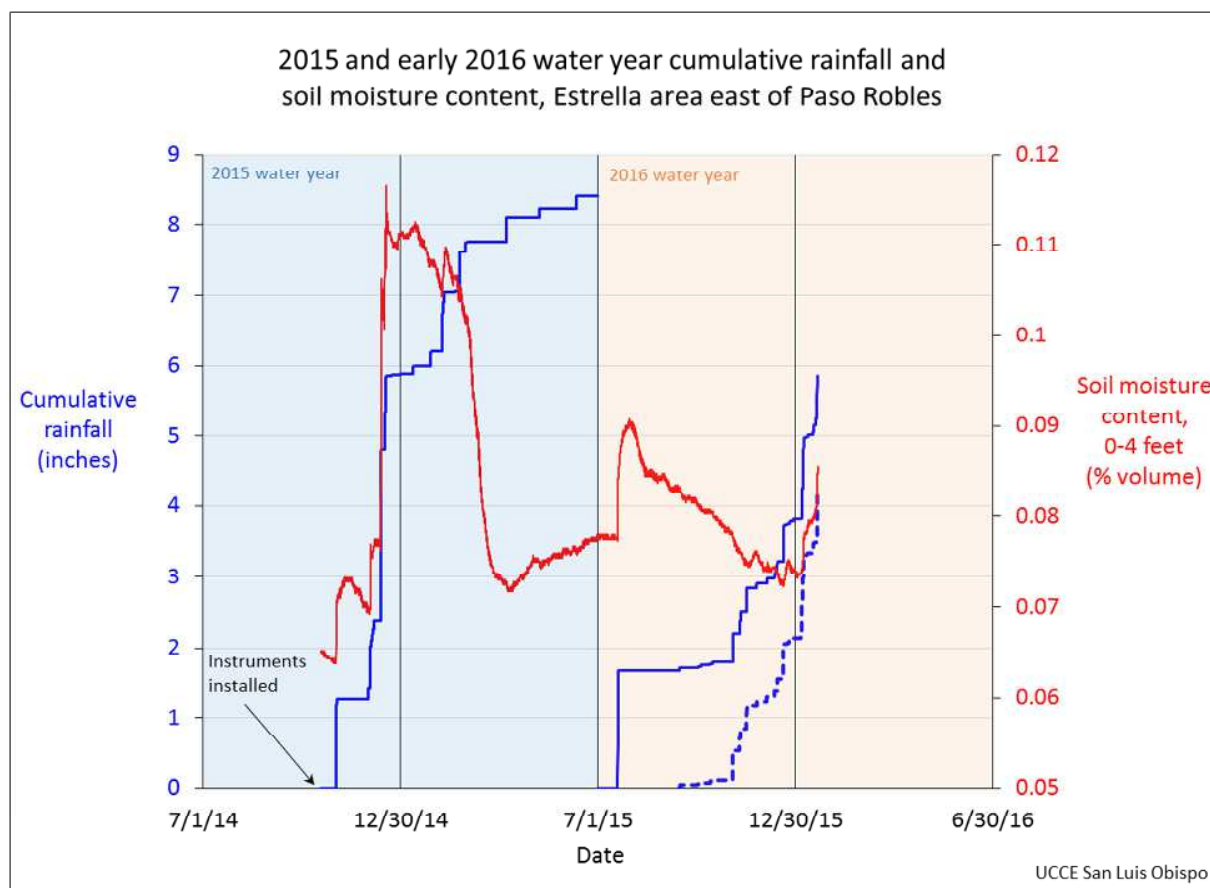


Figure 3. An example of impacts of cumulative rainfall on changes in soil moisture at one of the University of California monitoring sites in the Estrella area east of Paso Robles. Soil moisture content in the 0 to 4 foot root zone (% by volume) reflects an increase from recent rainfall events. The dashed blue line in water year 2016 represents the cumulative rainfall without the July 2015 rainstorm. \*\*Note that this is only one site with measurements of a very small volume of soil at that site and is not representative of the County as a whole.\*\*

#### Agricultural Assistance - Update from the USDA Farm Service Agency

According to staff at the USDA Farm Service Agency, the following programs are active in providing assistance. The programs are briefly summarized as follows:

*LFP – Livestock Forage Disaster Program:* provides payments for grazing losses. Because San Luis Obispo County continues in the D4 drought category, current eligibility is for 5 months of payments. The end date for sign-ups for 2016 payments is January 2017.

*EQIP – Environmental Quality Incentives Program (NRCS):* provides funds for land conservation planning and implementation of conservation practices. This program provides cost-share funding through USDA – NRCS. Applications and approvals are ongoing.

*NAP – Non-insured Crop Disaster Assistance Program:* provides cash payments to producers of noninsurable crops when low yields, loss of inventory, or planting did not occur due to natural disasters. Producers who are insured through this program should file a notice of loss as soon as possible and are required to file within 15 days of the loss being apparent to be eligible for benefits.

*Tree Assistance Program* – covering Red Blotch Disease in vineyards and losses due to drought conditions if growers rehabilitate or replant orchards.

For information about the assistance programs, contact the USDA Farm Service Agency:

Templeton: (805) 434-0398 Ext 2.

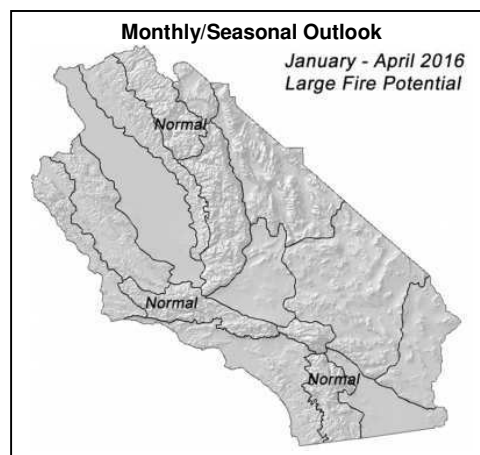
Santa Maria: (805) 928-9269

## **Fire Danger:**

### Fire Danger

So far, in 2016, CAL FIRE and the US Forest Service have responded to 26 fires across the state. Although large fire potential has been reduced significantly by precipitation in most areas, areas are still vulnerable to wildfires. The monthly/seasonal outlook from Predictive Services, shown on the right, calls for normal large fire potential through April 2016.

CAL FIRE is currently staffing seven wildland engines with more focus being placed on a number of fire prevention projects throughout the County. This is the first phase of the transition to “winter preparedness” staffing levels. Paso Robles Air Attack Base remains staffed with two tankers and one air attack. Two federal air tankers and one heli-tanker are no longer staffed.



### Live Fuel Moisture (LFM)

*(LFM is the moisture content of live vegetation expressed as a percentage of the oven-dry weight.)*

LFM values in the County have risen in the past month and range between 74 to 87, above the critical level of 60. Due to a number of rains, there is a green grass crop beginning to grow in most areas, which will significantly reduce or prevent the spread of wildfire.

### Dead Fuel Moisture

*(The moisture content of dead organic fuels is another important component of the relative fire danger. As with LFM above, dead fuel moisture levels are a good indicator of how likely fuels are to ignite and how intensely they will burn. 100-hr fuel refers to vegetation between 1 and 3 inches in diameter and 1000-hr fuel is 3-6 inches. When the fuel moisture content is low, fires start easily and will spread rapidly.)*

Many fuel beds in the County, particularly coastal sage scrub, have seen a dramatic increase in the percentage of dead fuel as a result of the prolonged drought. In many areas, the volume of dead vegetation exceeds the volume of live vegetation. The current values are indicated as below average for both 100-hour and 1000-hour fuels, but well above record lows.

### Temperatures/Relative Humidity (RH)

*(When combined with other factors influencing the fire environment such as wind, steep topography, and low fuel moisture levels, hot temperatures and low RH can significantly increase the fire danger by increasing fire initiation, spread rates, burning intensity, and difficulty of control.)*

Along with the precipitation received, cold temperatures have reduced the fire threat.

### Energy Release Component (ERC)

*(ERC is an index related to how hot a fire could burn. It is directly related to the 24-hour, potential worst case, total available energy (BTUs) at the head of a fire. The ERC can serve as a good characterization of fire season as it tracks seasonal fire danger trends well. ERC has low variability, and is the best fire danger component for indicating the effects of intermediate to long-term drying on fire behavior.)*

Cooler, shorter days have resulted in decreases in ERC values that are above average.

### Forest and Range Impacts

Widespread tree mortality is plainly evident throughout the County. All tree species have been adversely affected by the drought. Thousands of coast live oaks of all sizes in all areas and at all elevations have died. The eucalyptus stands on the Nipomo mesa are showing a sharp increase in the number of dead trees and also in the number of live trees with dead crowns which substantially increases the amount of dead fuel loading available for fire.

The area most severely impacted is the Cambria Monterey Pine Forest (CMPF). Already one of the most endangered native forests in the world, the CMPF has been further devastated by the drought. The poor condition of the CMPF resulting from the decades-long problems of senescence, over-crowding, fire exclusion, development, pitch canker, bark beetles, and many other fungal and parasitic pathogens has been severely amplified by the drought. These cumulative impacts have created the current situation where approximately 40-50% of the overstory trees are dead or dying. In certain areas, mortality exceeds 90%. In addition to the major impacts to forest health, the resulting fire hazard has increased to the point where catastrophic stand-replacing fire is very likely. Hundreds of large dead hazard trees are poised to fall on homes, vehicles, and vital infrastructure.

CAL FIRE has created a web-based map viewer to allow Californians to participate in understanding and identifying the areas most impacted with tree mortality as a threat to life and property. This viewer shows areas of tree mortality mapped from 2012 through 2015 as well as assets important to life and property, such as roads, water supply infrastructure, and communications facilities. Where the tree mortality intersect an asset will be categorized as high priority. The viewer can be accessed at the following link: <http://frap.fire.ca.gov/projects/DroughtViewer>.

#### Emergency Permits

The County is continuing to work to provide relief from hazard tree permitting requirements in Cambria to facilitate tree removal on the high number of affected parcels. The County Planning and Building Department approved an emergency hazard tree removal permit allowing Cambria residents to remove dead hazardous trees with a non-cost permit.

#### Forest Assessments

Forest assessments under the direction of Cal Poly forestry faculty have been initiated to quantify the extent of this issue and the results will be made known as soon as they become available. This research work will continue and will provide the foundation for all the work that will occur under the grants described above.

#### **Economic:**

In an effort to coordinate local and state response to drought impacts the following surveys are being utilized by the County:

#### Drought Business Impact Survey

The Labor and Workforce Development Agency (LWDA) and the Employment Development Department (EDD) developed a streamlined survey to report drought-related job impacts. Collecting "real-time" drought-related information is essential for the LWDA and the Governor's Drought Relief Task Force to identify the drought's impact on California's industries, employers, and workers. The survey, which collects information on drought impacts for employers allows the affected employer to report directly to the State, thereby, providing a level of confidentiality that business and industry need. A link to the new survey is available on the San Luis Obispo Workforce Development Board's website: [www.SLOWorkforce.com](http://www.SLOWorkforce.com).

Though the WIB is hearing that there are impacts, the county does not have any "reportable" impacts due to the State's requirements for reporting (i.e. specific business name, address, etc.).

#### Domestic Water Issues-Intake Form

The Governor's Drought Task Force created an online intake form for local, state, or tribal and federal agencies to document domestic water issues. The information is intended to inform and coordinate state response and mitigate drought impacts. Both agencies and individuals can complete the reporting form. Individuals with domestic water issues are encouraged to contact County Environmental Health at (805) 781-5544 or visit the state online reporting website at <https://mydrywatersupply.water.ca.gov/report/>.

### **STATE & FEDERAL KEY ACTION ITEMS FROM LAST MONTH**

#### **California's Conservation Continues to Meet Cumulative Target:**

On January 5, the State Water Board announced that Californians have reduced water use by 26.3 percent in the six months since emergency conservation regulations took effect in June. The percentage reduction for the six months equates to over 1 million acre-feet, putting the state more than 80 percent of the way to meeting the 1.2 million acre-feet savings goal to be achieved by February 2016.



## COUNTY DROUGHT TASK FORCE KEY ACTION ITEMS FROM LAST MONTH

### County Office of Emergency Services:

San Luis Obispo County OES continues to coordinate with the Governor's Office of Emergency Services (Cal OES) to provide updates on the drought situation, respond to specific information requests to Cal OES, and coordinate local emergency needs. County OES continues to participate in the statewide drought conference calls hosted by Cal OES.

### Emergency Actions:

No new emergency actions have been taken specific to the drought in this reporting period.

### County Facilities Usage & Conservation Actions:

The county has taken the following actions:

- Water Conservation: Water usage status updates for the users in the Utility Manager system and the County Operations Center show a 35% reduction countywide in water usage in November 2015 from November 2013.
- Fixture Replacement and Leak Repair: To date, staff has retrofitted 44 buildings with low-flow fixtures, saving an estimated 4,500 gallons per week. Staff continues to identify and repair leaks to minimize water loss.
- County Airport: As previously reported, County Airport fire hydrants must be flushed periodically to maintain safe water for drinking due to chlorine levels. The Airport is making the water from hydrant flushing available for agricultural operations, construction, or other purposes. Please contact the Airport at (805) 781-5205 if interested in using this free water.

### Drought Contingency Planning:

The Public Health Department, the Public Works Department, and CAL FIRE/County Fire continue to develop plans to ensure there is adequate supply of water for firefighting and domestic water use in the event that a community does not have enough water.

### Water Purveyors GIS

Water purveyors GIS data contains the new vulnerability level field that was determined after assessing the results of a one-time voluntary 2014 survey questionnaire that was sent to both large and small water purveyors. The mapping of this data has been categorized by the assessed vulnerability levels which are Watch (green), Vulnerable (orange), Critical (red) and Pending Survey Results (blue) and is available for CalFire in a web map viewer. The link is on the home page under the County Drought Task Force heading of the SLO Cal Fire website <http://www.calfireslo.org/>

### Dry Well Replacements

Environmental Health has been tracking dry well replacement applications since 2013 and the mapping of the sites is updated on a weekly basis. There were 56 dry well replacements during calendar year 2015. Of this amount, 53 were domestic/private wells and 3 were irrigation wells.

### County Owned Water Wells

Environmental Health is actively working on compiling and site mapping of all county-owned well application documents to support county-wide projects.

### Water Well Mapping

Environmental Health is actively working over the next year to map well construction and well destruction applications the department has on record.

### County Public Outreach Actions:

Information regarding current and upcoming drought relief programs for rural homeowners has been placed on the County Drought Conditions and Water Conservation webpage. Rural Development, an agency of the United States Department of Agriculture (USDA), delivers a number of programs to help improve the quality of life in rural communities throughout the nation. These programs may also help rural communities, businesses and individuals impacted by California's ongoing drought conditions. For

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additional resources and information on applying for any of these programs, please visit <http://www.rurdev.usda.gov/ca> or the County Drought Conditions and Water Conservation webpage at [http://www.slocounty.ca.gov/admin/Drought\\_Update.htm](http://www.slocounty.ca.gov/admin/Drought_Update.htm).

In an effort to raise awareness about water supply issues the County continues to examine multiple channels of communication for water conservation outreach efforts. Check out our water-saving tips, shareable water saving images, and customized Tweets and Facebook posts just for you to share and help us continue the SLO County culture of conservation at the following link: [http://www.slocounty.ca.gov/admin/Drought\\_Update/water-conservation.htm](http://www.slocounty.ca.gov/admin/Drought_Update/water-conservation.htm)

To report drought-related concerns or for water conservations questions, call the County Water Conservation and Drought Hotline at (805) 781-4466.

### **DROUGHT RELATED WEBSITES FOR MORE INFORMATION**

#### **County of San Luis Obispo Drought Conditions and Water Conservation**

([http://www.slocounty.ca.gov/admin/Drought\\_Update.htm](http://www.slocounty.ca.gov/admin/Drought_Update.htm))

#### **State's Water Conservation Campaign; Save our Water**

([www.saveourh2o.org](http://www.saveourh2o.org))

#### **California's Drought Information Clearinghouse; Drought.CA.Gov**

(<http://ca.gov/drought/>)

#### **California Department of Food and Agriculture; Drought information**

([www.cdfa.ca.gov/drought/](http://www.cdfa.ca.gov/drought/))

#### **California Department of Water Resources; Current Water Conditions**

([www.water.ca.gov/waterconditions/drought/](http://www.water.ca.gov/waterconditions/drought/))

#### **California State Water Resources Control Board; Water Rights, Drought Info and Actions**

([www.swrcb.ca.gov/waterrights/water\\_issues/programs/drought/index.shtml](http://www.swrcb.ca.gov/waterrights/water_issues/programs/drought/index.shtml))

#### **California Department of Public Health; Drinking Water CDPH Drinking Water Program**

([www.cdph.ca.gov/programs/pages/dwp.aspx](http://www.cdph.ca.gov/programs/pages/dwp.aspx))

#### **USDA Disaster and Drought Assistance Information; USDA Programs**

([http://www.usda.gov/wps/portal/usda/usdahome?navid=DISASTER\\_ASSISTANCE](http://www.usda.gov/wps/portal/usda/usdahome?navid=DISASTER_ASSISTANCE))

#### **UC Cooperative Extension Drought Information Resources; Drought Information Resources**

([http://cesanluisobispo.ucanr.edu/Drought\\_Information/](http://cesanluisobispo.ucanr.edu/Drought_Information/))

